

REMARKS

Currently, claims 1-14, 16-21, 23, 25-53 and 55-67 are pending. This includes independent claim 1, 33 and 52.

Independent claim 1 for instance claims a scrubbing product. The scrubbing product comprises a liquid absorbent structure comprising a plurality of fibrous cellulosic webs. The webs include at least eight paper webs containing at least 5% by weight high yield fibers. A plurality of apertures extend at least partially through the thickness of the absorbent structure: the apertures have a diameter of less than about 10 mm. Each fibrous cellulosic web is adjacent to at least one other fibrous cellulosic web. The plurality of apertures are formed and arranged such that the structure of the apertures contributes to the structural integrity of the liquid absorbent structure in the direction of the absorbent structure's thickness by fusing adjacent cellulosic webs along the thickness of the absorbent structure. Independent claims 33 and 52 contain the patentably distinct limitations of claim 1, including but not limited to, fusing adjacent cellulosic webs along the thickness of the absorbent structure.

Creating apertures by fusing together cellulosic webs along the periphery of the thickness into which the apertures extend provides several useful advantages. Because the apertures are fused around their periphery, they may hold a chemical additive. Further, the fusing of the cellulosic webs increases the Z-directional strength of the product due to the presence of the fused apertures bonding the webs together.

Independent claims 1, 33 and 52 stand rejected pursuant to 35 U.S.C. § 103(a) as unpatentable over EP 0066463 ("EP '463") in view of Srinivasan et al. U.S. Pat. No. 6,025,050 ("Srinivasan '050"), Currie et al. U.S. Pat. No. 5,429,854 ("Currie '854"), Vinson et al. U.S. Pat. No. 5,830,317 ("Vinson '317") in further view of EP 1212974 ("EP '974"). The independent claims also stand rejected pursuant to 35 U.S.C. § 103(a) as unpatentable over EP '463 in view of Currie '854 in view of Vinson '317. However, EP '463 teaches away from Applicants' claims. Further, modifying EP '463 in light of Srinivasan '050 and/or Currie '854 to arrive at the scrubbing product Applicants claim would destroy the intent of the EP '463, Srinivasan '050, and Currie 854 devices. Thus, they teach away from their combination.

EP '463 discloses:

According to an especially preferred embodiment of the invention, different compartments of the article are provided with different numbers of perforations, and/or with perforations of different sizes, so that the contents of the different compartments will be released at different rates. Thus controlled release of the active materials from the article over a relatively long period may be achieved.

Advantageously the perforations which allow release of the active material from within the compartments are made after the application of the adhesive and abrasive, to avoid the danger of blockage.

Using a syringe needle having a diameter of 0.8 mm, numbers of perforations varying from 2 to 20 were made in the various sachets.

The **product was pinholed** such that 50% of the compartments had 10 perforations/cm² and the remaining 50% had 2.4 perforations/cm².



Fig. 2.

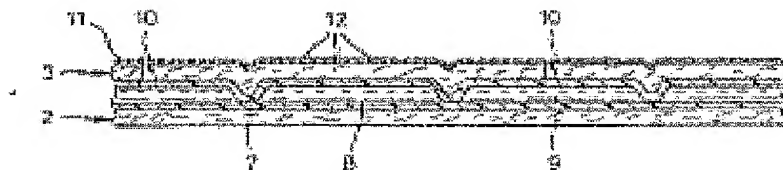


Fig. 3.

(EP '463, p. 3, ll. 17-23; p. 12, ll. 6-9; p. 14, ll. 28-30; p. 16, ll. 20-22; FIGS. 2 and 3.)

Accordingly, EP '463 discloses a "closed sandwich" structure comprising two substrate layers bonded together to create a plurality of compartments. These compartments contain active ingredients which are released through the apertures of EP '463 upon use. (EP '463, Abstract.)

Applicants' claims 1, 33 and 52 claim, *inter alia*, the plurality of apertures are formed and arranged such that the structure of the apertures contributes to the structural integrity of the liquid absorbent structure in the direction of the absorbent structure's thickness **by fusing adjacent cellulosic webs along the thickness of the absorbent structure.** As EP '463 discloses, its intent is to create open-ended apertures via syringe or pinholing that allow access to the active material contained in the compartments of the device into which the apertures extend. Clearly, this teaches away from Applicants' independent claims which claim that cellulosic webs are fused together along the thickness of the absorbent structure into which the apertures extend. Plainly, an aperture with a fused periphery will not allow materials to pass from the compartment through the aperture as intended by EP '463 because there is no opening to allow access to the active materials. Thus, EP '463 teaches away from Applicants' independent claims. Further, as explained below, one skilled in the art would not modify EP '463 as suggested by the Office Action because this destroys the intent of the EP '463 invention and the references teach away from combination.

Srinivasan '050 discloses:

In general, the desired polymeric layer for use in this invention has the property of readily fusing to the fibers of the fibrous layer(s) and shrinking sharply under calendar heat and pressure so as **to pull the fused fiber ends back away from the calendar points to form an aperture through the laminate.**

As shown in FIG. 1c, application of suitable heat and pressure **causes the lower melting film 12 to melt and suddenly shrink away from the area of the calendaring points 20a, 20b.** While shrinking away, **the melting film fuses to the fibers of the webs 10a, 10b and pulls the fibers back away from the calendaring points 22a, 22b.** As shown in FIG. 1d, the result is that **the film 12 and the fibers of the carded webs 10a, 10b become fused to each other, forming a crusted ring of fused matter 32 around the area of the calendaring points 22a, 22b. This crusted ring serves simultaneously to bond the layers together and to define an aperture 30 (or "through-hole") completely through all layers of the nonwoven fabric having a fused border along the periphery thereof.** The film acts as a carrier to move the fibers away from the calendaring points 22a, 22b and to create the aperture 30.

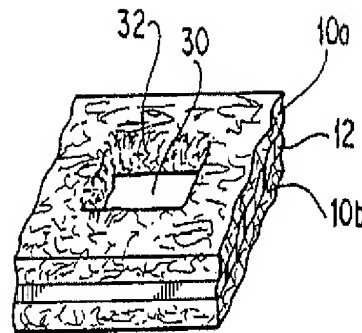


FIG. 1d

(Srinivasan '050: Col. 6, ll. 58-63; Col. 7, ll. 21-35; FIG. 1d.)

As shown above, Srinivasan '050 discloses forming apertures that possess a "crusted ring of fused matter" along the periphery of the calendaring points to form an aperture.

One skilled in the art would not be motivated to combine EP '463 with Srinivasan '050. EP '463 discloses creating apertures into compartments sandwiched between two layers so that active ingredients located in the compartments will pass through the apertures upon use. These apertures are formed by using a syringe or pinholing. However, Srinivasan '050 discloses forming apertures which are essentially a cavity with a fused interior extending either partially or completely through the laminate of the invention. These apertures are formed via heat and pressure. If one were to incorporate the apertures formed by Srinivasan '050 into EP '463, the active ingredients in the compartments would remain trapped as the openings constituting the apertures would be surrounded by a fused, crusted boundary. This specifically defeats the purpose of EP '463 which decries "the danger of blockage" that would prevent the compartments from emptying upon use.

Further, one skilled in the art would not combine EP '463 with Currie '854. As explained above, EP '463 discloses apertures which extend into cavities containing active ingredients for the purpose of allowing the ingredients to flow through the apertures upon use of the wiping article. Currie '854, however, discloses creating apertures that serve as abrasive composite material from the bottom-most two layers of the construct which do not form apertures that extend into other layers of the web.

The pin and apertured rollers serve to **mold the fibers of the coarse, shot-laden meltblown layer and the fibers of the supporting carrier layer into a three-dimensional generally conical shape**. Elevation of the temperature of the pin aperturing apparatus serves to **lock the apertured surface into the three-dimensional shape formed when the heated pins penetrate through both the coarse, shot-laden layer and its supporting carrier layer into the apertured roller**. Accordingly, the surface area of the apertured layers is increased. Additionally, the three-dimensional stabilized structure presents a much more aggressive abrasive medium for the removal of coarse dry dirt when the material is utilized as part of a wiper. Moreover, **the three dimensional structure provides macro-pits and macro-troughs which act to entrap dirt in addition to the dirt trapping ability of the voids of the coarse, shot-laden meltblown layer**. Lastly, it can also be stated that the apertures facilitate the transfer of liquid through the composite web when it is being utilized to wipe up liquids.

This is clearly illustrated by FIG. 5:

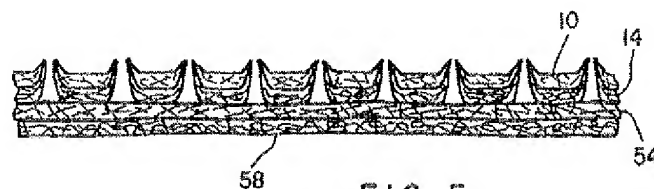


FIG. 5

(Currie '854: Col. 8, ll. 16-36.)

One skilled in the art would not seek to form the apertures required by EP '463 by following the teachings of Currie '854. As FIG. 5 clearly shows, the apertures formed by Currie '854 are designed to assist with abrasive scrubbing and trapping dirt and debris. As discussed above with respect to Srinivasan '050, Currie '854 uses hot-pin aperturing to create the apertures. This would mimic the structure of the apertures formed in Srinivasan '050 wherein the apertures have a fused boundary. Further, **apertures designed for scrubbing up and trapping dirt and debris would serve to fill and block the apertures instead of leaving them open as required by EP '463**. Therefore, Currie '854's would prevent the flow of the active ingredients from the cavities required by EP '463. A result EP '463 specifically seeks to avoid.

Applicants respectfully note that if proposed modification would render the prior art invention being modified unsatisfactory for its intended purpose, then there is no suggestion or motivation to make the proposed modification. M.P.E.P. § 2143.01. It is improper to combine references where the references teach away from their combination. Accordingly, EP '463, Srinivasan '050 and Currie '854 teach away from their combination and the rejections pursuant to 35 U.S.C. § 103 based on this combination should be withdrawn.

Claims 1-14, 16-21, 23, and 25-67 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-50 of copending Application No. 10/745,327 in view of EP 066463 in view of Srinivasan, Currie and Vinson.

Claims 1-14, 16-21, 23, and 25-67 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-91 of copending Application No. 10/733,169 in view of EP 066463, in view of Srinivasan, Currie and Vinson.

Claims 1-14, 16-21, 23, and 25-67 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-131 of copending Application No. 10/321,831 in view of EP 066463, in view of Srinivasan, Currie and Vinson.

Claims 1-14, 16-21, 23, and 25-67 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-220 of copending Application No. 10/322,277 in view of EP 066463, in view of Srinivasan, Currie and Vinson.

Claims 1-14, 16-21, 23, and 25-67 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-132 of copending Application No. 10/036,736 in view of EP 066463, in view of Srinivasan, Currie and Vinson.

With respect to the above provisional obvious-type double patenting rejections, Applicants agree to consider filing a terminal disclaimer if it becomes necessary pending allowance of the claims.

Applicants also respectfully submit that for at least the reasons indicated above

relating to corresponding independent claims, the pending dependent claims patentably define over the references cited. However, Applicants also note that the patentability of the dependent claims certainly does not hinge on the patentability of independent claims. In particular, it is believed that some or all of these claims may possess features that are independently patentable, regardless of the patentability of the independent claims. For instance none of the cited references disclose the limitation of claim 7 wherein the apertures have a depth that is not uniform in relation to one another. Further, Applicants traverse the Office Actions position that the claimed number of sheets found in Applicants' independent and dependent claims would be the result of routine experimentation. First, as a general matter, one of ordinary skill in the art would not perceive a reasonable chance of success in using an absorbent structure comprising at least eight sheets for the reasons alleged in the Office Action. The sections relied upon from EP '463 state that "the use of porous material also has the advantage that the outer sides of the article are to some extent absorbent" and that "...the outer surfaces of the article are of softer, porous material to give some absorbency and improved handling."

However, EP '463 discloses a "closed sandwich" structure comprising two substrate layers bonded together in such a way as to create a plurality of compartments. EP '463 must be considered for all its teachings, and the stated advantage of using a porous material is in the context of identifying which "flexible sheet materials" are suitable for use in the two substrate layers. See, e.g. EP '463 at page 4. The Office Action provides no teaching from EP '463 that more layers would necessarily achieve a softer product or better absorbency, nor is softness/absorbency the primary aim of EP '463.

Additionally, as noted below, an important feature of the EP '463 sheet is the plurality of compartments formed by the two substrate layers. The use of eight adjacent cellulosic layers could interfere with the proper functioning of the compartments, and thus the proposed modification could render EP '463 inoperative for its intended use.

Furthermore, even if one of ordinary skill in the art did attempt to increase the softness and absorbency through the use of multiple layers in the EP '463 sheet, it does not follow that one of ordinary skill in the art would perceive a reasonable chance of

success in using at least eight layers as set forth in claims 1, 33, and 52. These considerations apply even more forcefully with regard to claims 23 and 56, which recite at least twelve layers, and claim 57, which recites at least eighteen layers.

Regardless of the particular fibers involved, the higher number of layers would substantially increase the bulk of the cleaning sheet. See, for instance, Applicants' discussion at page 42 ("In general, the absorbent structure 334 may contain at least 8 layers, at least 12 layers, at least 18 layers, and in one embodiment can contain at least 20 layers. By increasing the number of layers, the absorbent structure obtains more sponge-like characteristics.").

EP '463, however, does not envision a bulky or sponge-like product. Instead, EP'463 contemplates an article "comprising a first substrate layer and a second substrate layer so bonded together as to create a plurality of compartments therebetween, at least some of said compartments containing active material and at least some of said compartments being provided with one or more perforations in one or each of the substrate walls defining said compartments." (EP '463 at page 2, line 31 to page 3, line 6).

In discussing its examples 3-6, EP '463 notes that "none of the articles felt harsh to the touch, and on wetting with hand-hot tap water (about 50°C) were flexible enough to be comfortably folded or crumpled in the hand for use." (EP '463 at page 19).

Thus, even if one of ordinary skill in the art would attempt to add one or two layers to EP '463 for the proffered reason, the Office Action has not shown why one of ordinary skill would continue on to eight, twelve, or eighteen layers since EP '463 does not contemplate a sponge-like product. Even if EP '463 desires softness as a subsidiary goal, the use of at least eight layers would not necessarily achieve this result, since the cleaning sheet would become more bulky with each additional layer.

Even assuming one of ordinary skill in the art would experiment with the number of layers in EP '463, the result of routine experimentation would not necessarily be at least eight paper webs containing high yield fibers if "softness" were the desired result. As noted by Vinson '317 at Col. 2, lines 36-44, use of high yield fibers "contributes to the loss of the velvety feel which is imparted by prime fibers selected because of their flaccidness." Thus, it is not clear from the Office Action why one of ordinary skill in the

art, concerned with the softness of the EP '463 sheet would choose to use high yield fibers at all, especially multiple layers of webs comprising such fibers.¹ Particularly, claims 1 and 45 each recite an absorbent structure comprising webs containing at least 5% by weight high-yield fibers.

To one skilled in the art, the incorporation or additional layers will increase the total modulus of the composite and not enhance a softness characteristic. Rather, additional layers would greatly detract from perceived softness.

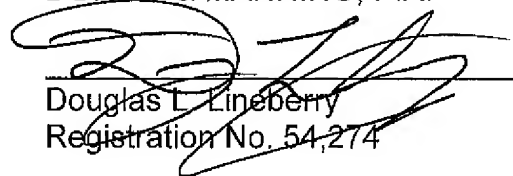
To the extent other aspects of the obviousness or other rejections are not addressed herein, Applicants wish to note that failure to address a particular rejection is not intended as an admission that the rejection or its underlying assumptions/interpretations of the claims or references is correct.

For at least the reasons set forth herein, Applicants request withdrawal of the present rejections. Applicants encourage the Examiner to contact the undersigned with any questions or comments.

Please charge any additional fees required by this Amendment to Deposit Account No. 04-1403.

Respectfully submitted,

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May 20, 2010
Date

¹ Vinson mentions the use of filler material to soften tissue paper webs that can comprise high-yield fibers. See, e.g., Col. 26, lines 11-17. However, one seeking to invent a product used for scrubbing would not incorporate tissue webs.